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## ABSTRACT

### Auftragstaktik-A Leadership Philosophy for the Information Age

This monograph discusses whether the leadership concepts of Auftragstaktik are relevant to the leadership requirements of an Information Age army. Preparing for the future is a difficult task for any military organization. This monograph examines the leadership requirements of an Information Age army with the leadership concepts of Auftragstaktik to determine if Auftragstaktik can serve as model for the future.

The monograph first examines the leadership characteristics and requirements of the concept known as Battle Command. Battle Command is how the United States Army describes the leadership characteristics and requirements of an Information Age army in the early twenty-first century. The next examination conducted looks at the leadership characteristics and requirements of corporations embracing the possibilities of the Information Age. This examination of an Information Age corporation provides for a comparison of two organizations embracing the potential of information technology. Finally, the monograph examines the leadership concepts of Auftragstaktik.

The monograph then compares Battle Command and Auftragstaktik. The monograph discusses the similarities between the two concepts. The monograph concludes that Auftragstaktik is relevant to the requirements of Battle Command and an Information Age army of the early twenty-first century. The monograph also provides four recommendations to improve the leader development programs in the United States Army as it prepares for the early twenty-first century.

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## ABSTRACT

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## I. Introduction

One of the most difficult problems for any professional military organization is, how to prepare for the future? The difficulty of this problem comes primarily from two complex challenges. The first challenge requires understanding or anticipating the nature of change. This includes understanding any changes in the conduct of warfare and in the military organization's strategic situation. The next challenge requires understanding how the organization may have to modify itself to meet this uncertain future. Adding to these two challenges are the capabilities and limitations of the political, social and economic structures that decide the amount of flexibility a military organization will have when adapting to the future.<sup>1</sup>

History highlights the difficulty of this problem by not providing many examples of military organizations successfully anticipating and adapting themselves for their first battle in the future.<sup>2</sup> The major causes of this failure, to prepare properly for the future, are the difficulty of the task and the reluctance of military organizations to embrace change.<sup>3</sup> Michael Howard, who made these observations during his Chesney Memorial Gold Medal Lecture, suggested that a military organization that is versatile, flexible and adaptable in its approach could best meet the challenges of the uncertain future. Howard did not



think that these organizational characteristics would guarantee proper preparation for the future. What he did think, was that an organization that exhibited these characteristics had the best chance of getting it closest to right. These same organization characteristics would also provide the best means for quickly adapting to the new battlefield conditions once unveiled by combat.<sup>4</sup>

Today the United States Army is attempting to prepare for its next battle in the future. Changes in its strategic situation and the potential of new technologies to change the conduct of warfare require examination and understanding. Clearly the United States is entering a period where Howard would recommend a versatile, flexible and adaptable approach.

The end of the Cold War has created a new strategic situation for the United States Army. This new strategic situation envisions many new requirements. The army is anticipating missions that will support democratic growth, human rights, independent judiciary, and economic cooperation in the various regions of the world. Simultaneously the army will maintain its requirements for meeting the defensive needs of friends and allies. Inherent in these missions are the requirements to form alliances or coalitions, limit or prevent potential sources of conflict and deter or defeat regional aggression.<sup>5</sup>

The potential offered by advances in information

technologies is causing the United States Army to examine how these advances may change the conduct of warfare.<sup>6</sup> Information technologies offer to increase the volume, accuracy and speed of battlefield information. These advances would enable units to decide and act at a faster tempo than their opponents, and would contribute to securing the initiative. Retaining the initiative will remain an essential element for success on the future battlefield.<sup>7</sup> The army believes this potential to increase the operational tempo on the future battlefield is also reshaping its concepts of command.<sup>8</sup>

If these advances reshape our concepts of command, then an examination of the leadership characteristics and requirements needed for this future command concept is appropriate. However, before this examination can begin, this study will accept the potential offered by advances in information technologies. Accepting these technological advances allows the study to move beyond the technical and organizational issues that surround a system not yet developed, tested or fielded. By moving beyond these important but evolving issues, the study can focus on the human aspects of this new command concept.

The human aspects are the leadership characteristics and requirements of the commanders and leaders who must use this new command concept. The purpose of this command concept is to provide commanders and leaders the ability to

operate in the new strategic situation and exploit the advantages of the technology that may serve them. The study will begin with an investigation of the United States Army's views concerning the leadership needs for this new command concept. Next the study will investigate how advances in information technology are affecting business corporations. Here again the focus is on the leadership characteristics and requirements. Instead of commanders and leaders, executives, managers and workers of corporations are considered.

Defining these characteristics and requirements are four leadership aspects. These four aspects are: the role of initiative or independent decision making on shaping leadership responsibilities, the importance of education and training programs in developing leaders, the nature of senior-subordinate relationships, and the desired character and leadership attributes of commanders and leaders. Once defined, a comparison of these aspects will provide conclusions concerning the leadership characteristics and requirements of the army's new command concept.

Next an examination will consider the leadership characteristics and requirements found in the German Army's warfighting philosophy termed Auftragstaktik, as displayed before 1945. Conclusions drawn from the two organizations embracing information technologies will then be compared to Auftragstaktik. This comparison will enable this study to

decide if the leadership concepts found in Auftragstaktik are relevant to the leadership characteristics and requirements found in the army's new command concept. If the concepts are relevant, then the United States Army can use the concepts of Auftragstaktik as a model for its transition to its new command concept.

## II. Anticipating Future Leadership Requirements

### Battle Command.

The United States Army's Training and Doctrine Command (TRADOC) 1 August 1994 version of Pamphlet 525-5, Force XXI Operations: A Concept for the Evolution of Full-Dimensional Operations for the Strategic Army of the Early Twenty-First Century, contains the United States Army's current effort to examine its future requirements. In this pamphlet the army outlines the types of missions it will conduct in support of National Security and National Military Strategies. Strategies shaped by a new strategic situation for the United States.<sup>9</sup> This pamphlet also explains the potential changes in the conduct of warfare offered by an integration of emerging advances in information technologies with a warfighting doctrine.<sup>10</sup> TRADOC's 525-5 also expects that the advantages gained from integrating information technologies with doctrine will enhance the army's ability

to accomplish its missions in this new strategic situation.<sup>11</sup>

An investigation into the leadership characteristics and requirements for the Force XXI Army leads to five battle dynamics. The United States Army is using these five battle dynamics to analyze the challenges of the early twenty-first century. These five battle dynamics are battle command, battle space, depth and simultaneous attack, early entry and combat service support.<sup>12</sup> There are two key elements that "permeates" through all five battle dynamics. The first key element is the potential for information technologies to create a "shared knowledge" of battlefield conditions.<sup>13</sup> This "shared knowledge" of the battlefield allows commanders and leaders at all levels and battle operating functions to possess a "common relevant picture" of the battlefield. This picture, of both friendly and enemy situations, is more accurate and created faster because of the information system's capabilities. More accurate and faster made decisions will allow units to respond more quickly to battlefield conditions. It is these capabilities that will enable a unit to operate at a faster tempo than an opponent. Maintaining a faster tempo secures the initiative and contributes to battlefield domination.<sup>14</sup> The other key element that "permeates" through all five battle dynamics is the need for quality soldiers, noncommissioned officers and officers.<sup>15</sup> The leadership characteristics and requirements

these quality individuals must possess in the Force XXI Army are found in a description of the battle dynamic of battle command.

Battle command is "the art of decision-making, leading and motivating informed soldiers and their organizations into action to accomplish missions at the least cost to soldiers." <sup>16</sup> Despite the potential offered by information technologies, the art of battle command will not be practiced in an environment of perfect information. The commanders of the Force XXI Army must accept and not hesitate to act in an uncertain and stressful operational environment.<sup>17</sup> Acknowledging the requirement for commanders and leaders to operate under conditions of uncertainty does not mean information technologies will not help commanders and leaders practice the art of battle command. Instead, this acknowledgment is a realization of the limits technology will have in helping commanders and leaders cope with the pace and complexity of future operational environments. This realization comes from an understanding of the nature of war and a continuing trend in the conduct of warfare for increasing the tempo and complexity of operations.

The nature of war is a clash of wills. Man's will to pursue whatever it takes to survive, coupled with his emotions of fear, anger, vindictiveness and hatred often puts the nature of war beyond the rational calculations of

any decision making system.<sup>18</sup> The increasing tempo of operations is a result of the armed forces' never ending attempt to gain and maintain the initiative over an opponent. Increasing complexity comes from the requirement to orchestrate the lethality of increasingly sophisticated weapon systems.<sup>19</sup> Applied together these two forces, along with the friction of battle, prevent any technological advances in information systems or command systems from eliminating uncertainty on the battlefield.

To operate on this increasingly fast paced and complex battlefield, where uncertainty persists, battle command requires competent commanders and leaders who have developed an intuitive sense of battle. Commanders and leaders who possess this intuitive sense of battle will bridge the gap between incomplete information and the requirement to make a decision.<sup>20</sup> This intuitive sense of battle requires skills such as vision, innovation, adaptability, creativity and the ability to simplify and clarify both complex and ambiguous situations.<sup>21</sup> Other leadership attributes necessary for mastering the art of battle command include agile-minded and disciplined commanders and leaders.<sup>22</sup> However, a critical element for intuition to succeed in the battle command environment is initiative.

Initiative allows subordinate commanders, leaders and soldiers to take the appropriate action to accomplish the mission. The need to react rapidly to changing situations

requires subordinates who have the ability and freedom to apply their intuition to these rapidly changing situations. The commander's intent for a mission provides the framework that subordinates use when taking the initiative.<sup>23</sup> For intuition and initiative to flourish in an organization the correct command atmosphere must exist.

This atmosphere comes from a senior-subordinate climate where leaders take responsibility for their decisions, seniors are loyal to subordinates and a sense of team work exists in the organization.<sup>24</sup> In training, this climate comes from seniors who teach, coach and mentor their subordinates.<sup>25</sup> This training approach is essential in the development of intuitive skills in subordinate leaders.

The leader development program that will produce these leadership characteristics, will emphasize both education and training programs. Education programs will require future leaders to have a broader understanding of war and the art of command than is currently expected of leaders today. They will also need higher doctrine-based skills and knowledge. Training will provide the necessary skills and experiences required to conduct the anticipated joint and multinational operations of the future.<sup>26</sup>

Leaders must also possess the skills to synchronize and harmonize all aspects of combat and noncombat operations. Leaders must also understand and be capable of exploiting the potential of their organizations. Leaders should not



use their information technologies to interfere with the command decisions of subordinates or to stifle their initiative or intuitive skills.<sup>17</sup> The requirement, not to interfere with subordinates, does not make battle command simply a decentralized command philosophy. Battle command requires commanders and leaders to use their intuitive skills to figure out the degree of decentralization or centralization of command that best accomplishes the given mission under the current conditions.<sup>18</sup>

This description of battle command demonstrates the four leadership aspects that define the leadership characteristics and requirements. The first leadership aspect to emerge is the leadership attribute of possessing an intuitive sense of battle. This intuitive sense comes from the leader possessing the characteristics of vision, innovation, adaptability, creativity and an ability to simplify and clarify both the complex and the ambiguous. Another leader attribute required to practice successfully the art of battle command, is the ability to operate in an uncertain and stressful environment. Uncertainty and stress will characterize future battlefields. Subordinates who have an intuitive sense of battle and exercise the initiative will successfully operate in this uncertain and stressful environment.

An environment that expects subordinates to exercise the initiative requires certain conditions. One of these

conditions, the second leadership aspect, is the role that initiative or independent decision making has on shaping leadership responsibilities. Commanders and leaders are responsible for articulating and intent for an operation or mission. The intent provides a framework for the subordinates intuitive sense to operate in when changing situations occur on the battlefield. This framework can be either restrictive or less-restrictive. Commanders and leaders must recognize the impact of limited resources, subordinate experience and the complexity of a mission when deciding how much independent decision making is practical. Subordinate commanders and leaders are responsible for recognizing and adjusting to the limitations and constraints of their superior's intent when conducting their mission. This framework for exercising the initiative is only possible if the superior and subordinate accept responsibility for their decisions. They willingly accept responsibility for their decisions because of the senior-subordinate relationship that exists in their organizations.

The senior-subordinate relationship, the third leadership aspect, is critical to both fostering an environment for initiative to exist and the development of the subordinate leader's intuitive sense of battle. Loyalty and a sense of team work in the organization characterize this relationship. Seniors who teach, coach and mentor their subordinates help in the development of their

subordinates intuitive sense of battle and their understanding of the initiative.

These commanders and leaders who possess an intuitive sense of battle will also require an education and training program to develop these attributes. The education and training programs must develop tactically and technically competent commanders, leaders and soldiers. The education programs will emphasize an understanding of war, the art of command and doctrine. The training programs will provide the necessary experience to synchronize the effects of joint and multinational forces as well as governmental and nongovernmental organizations.

The United States Army is not the only organization examining the impact of information technology on their organization's leadership characteristics and requirements. It is appropriate then to consider the views that these organizations have on the impact of these new information technologies on leadership requirements. These considerations may provide support for the views expressed by the United States Army in its description of battle command.

#### Changes in the Corporation.

Comparing a military organization with a business in an attempt to examine future leadership characteristics and

requirements would normally lead to criticism. The source of any criticism would probably lie in the different products each organization produces. A corporation must produce a marketable product or service. A military organization must produce what Martin van Creveld called fighting power. Martin van Creveld defined fighting power as, "the mixture, in one combination or another, of discipline and cohesion, morale and initiative, courage and toughness, the willingness to fight and the readiness, if necessary, to die."<sup>29</sup> Although armies continue to become more technical in their nature with increasingly sophisticated bureaucratic structures, the qualities of fighting power continue to distinguish business from military organizations.<sup>30</sup> However, the forces of change effecting corporations are causing them to move beyond their current ideas of management.

The term "leadership" rather than "management" better describes the key requirement for successful change. To begin, this change involves more than good management of a routine process where approaches are well documented with outcomes that are fairly predictable because of prior experience . . . Instead we are dealing with innovation on a wide scale . . . We are breaking new ground; forging new concepts of what works best.<sup>31</sup>

The sources of these changes, in the ideas of management, are creating an environment similar to the environment van Creveld recognizes that military organizations must operate in. This new environment for business, like a military

organization, requires the organizational ability to switch from one activity to another very quickly often without warning. These changes in activity often create stress on the systems of command or management and the relationships between members of the organization.<sup>32</sup> Although, the changes in the business environment still do not approach the requirements found in the morale domain of combat, the similarities between the forces of change and the nature of the leadership characteristics and requirements warrant an examination and comparison. However, van Creveld's arguments shall serve as a warning so that the study does not forget the essential difference between business and combat.<sup>33</sup>

There are two primary forces causing change in the American business community. Like the United States Army these changes are a result of changes in the strategic situation and the impact of information technologies.<sup>34</sup>

Since the end of the Second World War the strategic situation for American corporations has become increasingly complex. Dependence upon imported resources makes their availability subject to uncertainty during times of international crisis. Competition from both Japan, Europe and emerging competition from South Korea, Taiwan, Singapore and Brazil makes it more difficult for corporations to maintain a competitive edge. Deregulation while increasing opportunities also increases competition.<sup>35</sup>

The nature of the market environment has also changed. Corporations must rapidly react to new consumer demands. To remain competitive, corporations continue to reduce the time from identification of a market or service to the delivery of that product or service.<sup>36</sup>

A reduction in the time it takes from design to tooling, combined with the flexibility to make short production runs with minimum plant down time, results in short production cycle times. And that in turn gives the manufacturer the ability to move more quickly, responding to changing customer interests.<sup>37</sup>

This requirement to reduce the time of the product and service cycle has caused corporations to examine the potential offered by information technologies.

Information technologies offer the key element for increasing the speed of business decision making in this demanding market environment. These technologies will gather data on markets and consumer needs. Information technologies will facilitate new design methods and production processes. The information technologies will also provide the operating systems that links the company's employees with suppliers, distributors, retailers and even consumers.<sup>38</sup> However, integrating these new technological advances will require changes in the corporation's organizational and managerial ideas.<sup>39</sup>

For the corporate manager or leader, reducing the product cycle time changes the very nature of decision making in the organization. The buzz word that best

describes the change is "power down." Centralized decision making processes at high levels of authority in the company are giving way to decentralized decision making processes at much lower levels of authority.<sup>40</sup> There are two fundamental reasons for this "power down" approach. First, the notions that information technologies will allow very centralized control of all functions at some high level are false. Even with information technologies, the individuals closest to the action will know how to respond best to a rapidly changing market.<sup>41</sup>

In an increasingly dynamic, interdependent and unpredictable world, it is simply no longer possible for anyone to figure it all out at the top. The old model, the top thinks and the local acts, must now give way to integrating thinking and acting at all levels.<sup>42</sup>

The second reason for the need to "power down" is the role initiative plays in decision making.

Alvin Toffler, in his book The Adaptive Corporation, explained that smart corporations encourage workers to take the initiative. He considered this essential for maintaining the constant innovation required to remain competitive. This is evident in the supermarket and computer markets. The American supermarket industry creates one thousand new products every month to remain competitive. The computer market also displays this competitive pace. Before the 486 computer could replace the earlier 386 system, the 586 computer was already on the way to the

market. Only by giving employees the initiative to develop new ideas, and if necessary change the rules, can corporations compete in this type of market.<sup>43</sup> Increased employee initiative requires significant management responsibility. Management, or leadership, must set goals, measure results, create work processes and establish and effective environment for these mechanisms.<sup>44</sup> Management must understand that flexibility and responsiveness are now necessary for competitiveness. These ideas, which were once a threat to efficiency, are now essential to success.<sup>45</sup>

The goals leaders set serve as a vision for the corporation or section of the corporation. This vision provides direction and creates the framework for employees to exercise their initiative. Leadership must devote themselves to developing this vision or market strategy. Meddling in the responsibilities of subordinates not only stifles initiative, it keeps the leadership from providing the proper direction for the corporation.<sup>46</sup>

Vision and initiative operating in a decentralized decision making process also requires employees and managers to possess certain attributes and leadership characteristics.

Adaptive managers today must be capable of radical action-willing to think beyond the thinkable: to reconceptualize products, procedures, programs and purposes before crisis makes drastic change inescapable.<sup>47</sup>



All members of the corporation must have creativity and problem solving skills. Creativity skills are critical for developing innovative ideas. Creativity skills combined with problem solving skills provide innovative solutions to the problems and challenges emerging from the demanding market and production environments.<sup>48</sup> This new business approach is built around teams that requires employees and managers to possess the foundations for teamwork. The characteristics of trustworthiness, honesty and responsibility will provide the foundation for team work.<sup>49</sup>

Companies that build the highest-quality products in the most efficient factories have relied on techniques such as total quality management and lean manufacturing. These techniques in turn depend on worker skills in problem solving and team work.<sup>50</sup>

Two other attributes both employees and managers must possess are study skills and commitment to the corporation. The importance of study skills will be address later. Commitment to the corporation is considered essential for success. Only by substituting the factors of fear and monetary reward as the sole motivation factors can a corporation hope to achieve initiative and decentralized decision making in its employees. These motivation factors must be secondary considerations to the commitment to the corporation. Only a commitment to the success of the company will motivate employees to take the initiative and accept responsibility for their decisions.<sup>51</sup>

Commitment to the company will require a relationship between management and labor that is built on trust. Communicating with each other and removing or lessening the adversary relationship between management and labor achieves trust in the work place. Efforts to eliminate a commonly held opinion of American labor, that management sees automation as a means to abolish workers, would improve trust and make workers understand the importance of automation for the company's success. Employees must accept that automation is only a tool to leverage their innovative skills and allow decision making at a lower level, which in turn makes the company more competitive.<sup>52</sup> The Lenscrafter Company provides an example of how trust and loyalty helps develop initiative in its employees.

It's okay to fail in our (corporate) culture as long as you try ideas and have something not work, as long as you learn from it and the company learns from it. . . . Accepting mistakes is important. It removes fear. It encourages innovation.<sup>53</sup>

Providing education and training programs for employees also improves this sense of trust while providing the company with skilled workers.

Employees who have good study skills and accept the idea of being full time learners are essential for future companies.<sup>54</sup> Employees will have to know how to use the new information technologies to gather the necessary information and then know what to do with the information in order to

make a decision. This requirement will entail technical training to use the information devices and education and experience in business decision making situations.<sup>55</sup> The greatest challenge for the corporation is providing the experience necessary for employees to develop decision making skills.

One proven way of doing this has been through quality circles. Groups of employees regularly meet to discuss how to improve product quality and workplace productivity. Such programs teach employees how to analyze and solve quality problems with minimum management supervision.<sup>56</sup>

The leadership characteristics and requirements of both the Force XXI Army and the future business corporation now require comparison. While keeping van Creveld's warning concerning the differences between a military organization and a business in mind, we can compare these two different organizations.

#### Comparison.

Essentially both the Force XXI Army and the future corporation have the requirement to make good decisions faster than their opponents. The environment these decisions will be made in is both complex and rapidly changing. Both organizations see great potential in information technologies as an innovative tool to help the decision maker and as an instrument influencing change in

their respective organizations. These organizational changes are considered necessary to both maximize the potential of the technology and help the decision making process. However, the potential of this new technology will not eliminate uncertainty for the decision maker.

The continuing challenge of uncertainty for the decision maker has caused both organizations to conclude that "power down" or decentralization is necessary. This decentralized approach is key if either is to compete successfully in its complex and rapidly changing environment. The Force XXI leader must also remain flexible enough to know how to regulate the amount of decentralization. For decentralization to function, subordinate decision makers must possess the initiative to take the appropriate action. Knowing what the appropriate action is comes from the commander's intent in the military and the executive's or manager's vision in the corporation. Both provide the framework in which the subordinate exercises the initiative.

These decision makers will also require certain important attributes and characteristics. In the military these attributes and characteristics lie in the commanders' and leaders' intuitive sense of battle. In the corporation employee commitment to the company, at all levels, is the most important attribute. These two attributes are fundamentally different. However, a soldier's commitment to

his unit and mission is something good military leaders are always striving to gain or maintain. Similarly, an intuitive sense of business is the goal of the company's education and training programs.

Both organizations also recognize the need to develop these decision making skills. These skills come from both education and training programs. Training provides technical competence and practical experience in the art of decision making. Training also comes from a senior-subordinate relationship where the senior serves as the mentor, coach and teacher. Most importantly the senior-subordinate relationship is founded on the ideas of trust, loyalty and team work. Margaret Wheatley probably best summarized the similarities between the Force XXI Army and the future corporation leadership characteristics and requirements.

Leaders, in business or in uniform, must learn to adapt to that uncertain environment. While they cannot control the random and ambiguous changes that affect their organization, they can identify the cohesive corporate mission or competency and make sure it is imprinted on every worker or soldier.<sup>57</sup>

There are strong similarities between the military and the corporate views of the future leadership characteristics and requirements. The similarities are founded in both organizations' attempts to use information technologies to help decision makers in their fast pace and uncertain environments. These similarities allow the conclusion that

the army's views are sound. It is useful now to compare these current views with other successful leadership philosophies.

### III. Auftragstaktik

A study of leadership characteristics and requirements would naturally consider some aspect of the German warfighting philosophy termed Auftragstaktik. One of the reasons for considering Auftragstaktik is the influence some military historians believe it had on the Prussian-German armies' tactical performance from 1866 to 1945. One military historian, Michael Howard, has pointed out that in 1914, 1918 and again in 1940 that the Germans were unique in grasping the implications of new technologies on the conduct of warfare, and integrating them into their equipment and doctrine.<sup>58</sup>

What was unique about the German Army from 1914 to 1918 was their ability to adapt and integrate changes on the battlefield throughout their organization. This ability did not prevent strategic mistakes or economic limitations that ultimately lead to the German's failure to gain victory over the allies. However, the army's ability to identify, accept and successfully implement so quickly the new concepts of the "elastic defense-in-depth", antitank tactics and the "offensive tactics of 1918" was unique among the

belligerents. In comparison the allies struggled for almost two years before they fully recognized and then exploited the advantages of the tank.<sup>59</sup> By 1940 this ability to recognize and integrate change allowed the German Army to set the standard for modern mobile warfare.

The mobile warfare that the Germans practiced and the allies termed Blitzkrieg, was possible due to the German Army's successful integration of the radio, airplane and tank at the tactical level.<sup>60</sup> Just as the German Army had done during the First World War, the success of Blitzkrieg was a result of integrating the changes in the conduct of warfare into a warfighting doctrine, tactics, equipment and organizational structure. Training and leader development programs then insured a common understanding of the new concepts throughout the force.<sup>61</sup>

Another military historian, Martin van Creveld, believes the German Army's performance from 1939 to 1945 was unique. He concluded in his Fighting Power studies that the German army was a superb fighting organization with probably no equal among twentieth-century armies at the tactical level. One possible exception to the German Army, in van Creveld's opinion, is possibly the Israeli Army.<sup>62</sup>

Even in the United States Army the tactical performance of the German Army has not gone unnoticed. The development of AirLand Battle doctrine in 1981 examined and accepted many of the concepts of Auftragstaktik as the United States

Army evaluated its challenges in a potential conflict against the former WARSAW Pact.<sup>63</sup>

Despite the observations of Howard, van Creveld and the recognition by the United States Army the performance of the Prussian-German armies, to include at the tactical level, is still the subject of debate. One reason for the debate is the fact that ultimately the German Army loses in both the First and Second World Wars. However, even if the German Army was defeated at the tactical level their commanders and leaders ability to react faster to changing battlefield conditions justifies an examination of their leadership philosophy.

This ability to react faster to changing battlefield conditions was recognized by General Richard E. Cavazos, United States Army Retired, during a Leadership symposium in May 1983. During his keynote address he provided six factors that he considered essential for improving the moral effect of combat. His third factor described the importance of the manner in which the tactical plan is expressed.

Mission and concept-of-operation statements must be developed that put subordinates into the mind of the commander and enable freedom of action by subordinates in harmony with each other and in harmony with the commander's intent. The German Army calls this Auftragstaktik, . . . There are countless combat examples of German counterattacks occurring fifteen to thirty minutes after the loss of a position. It is well documented that British, French, American, and Russian counterattacks were several hours latter. Obviously, the Germans better understood their battle



plan and the importance of a particular terrain so that subordinates took immediate action at their level to regain the terrain or battle initiative.<sup>64</sup>

Moving beyond the fact that the Germans lost in both the First and Second World Wars allows an examination into the reasons why its commanders and leaders reacted faster to changing conditions on the battlefield. This examination may then reveal valuable insights concerning the leadership philosophy of Auftragstaktik. These insights may also prove useful for implementing the principles of battle command in the United States Army.

Unfortunately, the German warfighting philosophy is not very well understood. The cause for this starts with its name. The term Auftragstaktik, is translated by some to mean mission-orders or mission-tactics. Others translate it to mean mission-type tactics. Confusion over the meaning of the term is further complicated since the literal translation of auftrag is job or task and not mission.<sup>65</sup> Regardless of its true meaning the term Auftragstaktik is virtually never used in the German army from 1866 to 1945. German officers used the term, after 1945, to illustrate certain aspects of the German Army's approach to war during the Second World War.<sup>66</sup> Mission-orders was only a technique the German Army used and does not properly represent its "seamless" approach to warfare.<sup>67</sup> The definition below describes the full scope of what is now, Auftragstaktik.

... it is an all-encompassing concept, holistically embracing elements of what today would be called the theory of the nature of war, character and leadership attributes, tactics, command and control, senior-subordinate relationships and training and education.<sup>68</sup>

Some believe that the origins of Auftragstaktik came from the experience of Hessian soldiers who fought in the American Revolutionary War.<sup>69</sup> However, it is not until the experiences of the Wars of German Unification in 1866 and 1871-72 does German military literature seriously begin a discussion of the ideas that will become known as Auftragstaktik.

No matter where the origins of Auftragstaktik lie, it is more important to understand what battlefield conditions the Germans were reacting to. Technological advances in weapons continued to make the battlefield increasingly more lethal. A reaction to the increased lethality was the development of tactics, also made possible by technological advances in weapons, which resulted in dispersed soldiers and units. This all resulted in a more confusing and complex battlefield where old techniques of command and control were no longer practical.<sup>70</sup> These observations along with the belief that war was "fundamentally a clash of wills," which results in enemy actions that rarely obey preconceived plans lead to the development of Auftragstaktik. Added to these challenges was a very strong appreciation for the disruptive effects, of what Clausewitz

called, friction on military activities.<sup>71</sup> The German's approach to the challenges of this battlefield was not to develop a command and control system that could eliminate these problems, but rather one that could successfully operate in and exploit any opportunities in this battlefield environment.

The Germans identified two essential elements for successful operation in this challenging battlefield environment. Speed of action and independent action by subordinates, both dependent upon one another, were the critical elements for battlefield success.<sup>72</sup>

Of necessity, the new German Imperial Army studied the problem, seeking a way to prepare leaders at lower levels better for independent decision-making. Without allowances for this, decisions on the dispersed battlefield threatened to be too time-consuming. Speed of action would be lost.<sup>73</sup>

Achieving this speed of action required more than independent action by subordinates.

Speed of decisive action was only possible with competent commanders and leaders who could rapidly analyze their situation and act with incomplete, inaccurate, and even conflicting information. This was the result of realizing every situation in combat is unique.<sup>74</sup> Since Auftragstaktik was "an all-encompassing concept," it also provided the leadership ideas that would develop the types of leaders needed to conduct modern operations. It would also establish the proper command environment for this

approach to warfare.<sup>75</sup> The command environment and leader development system that evolved under Auftragstaktik becomes evident in the examination of Auftragstaktik.

Auftragstaktik recognized that decision makers, at all levels, needed to possess the initiative. It recognized that decision makers closest to the situation could best handle the immediate battlefield situation. The initiative was essential to generate the necessary speed of decisive action.<sup>76</sup>

With initiative came responsibility as well. One leadership responsibility was for commanders to establish the intent of the mission or operation. Subordinate commanders and leaders were responsible for understanding the intent of their commander's two echelons higher. The intent provided the framework or boundaries in which to exercise the initiative when fluid situations and enemies' actions did not conform to original plans. It also enabled commanders and leaders to exploit opportunities as they appeared on the battlefield.<sup>77</sup> However, the command system could only function if the commander took his responsibility for establishing the intent seriously. The German term Gesetz der Sache (the law of the situation) illustrates the commander's responsibility to limit or expand the amount of initiative or freedom of action subordinates may have in a given situation. Abilities of subordinate commanders, availability of resources and the complexity of a plan might

require more centralized control.<sup>79</sup>

Other leadership responsibilities included the need to command from the front. Regular visits to subordinate headquarters kept operations from becoming free play melees. It also kept commanders informed of the situation.<sup>80</sup> Finally, commanders and leaders at all levels required a strong understanding of common doctrine and tactics. This facilitated speed of action by providing a common thread of understanding in the army.<sup>81</sup>

Another requirement for Auftragstaktik was the character and leadership attributes of the soldiers who would make the decisions on the battlefield. First, decision makers had to be "thinking soldiers." These thinking soldiers needed intuitive powers to access the situation properly and creative powers to develop a successful course of action.<sup>82</sup> These soldiers would also need to be willing to step forward and take charge of a situation completely on their own authority if necessary. Assuming, responsibility under stressful conditions required considerable moral courage, self-reliance and self confidence.<sup>83</sup> These "thinking soldiers" who willingly accept and assume responsibility could only exist in the correct senior-subordinate environment.

The senior-subordinate relationship required in Auftragstaktik consisted of mutual trust, confidence and loyalty. The 1933 edition of the German Field Service

Regulations, Troop Leading, emphasized this relationship.<sup>83</sup> Below are examples of this relationship, which fosters the initiative. They are from Major General F.W. von Mellentin's accounts of his service on Rommel's staff during operations in North Africa.

During critical periods the absence of Rommel and his chief of staff sometimes lasted not only for a day, but for several days. This threw a heavy responsibility on the junior staff officers, and particularly on the Ia (Chief of Operations Section). We accepted it gladly, because we knew that Rommel would always back up any decisions we felt compelled to make.

During the "Crusader Battle," in November 1941, this relationship was clearly demonstrated by Westphal's (The Ia) decision to cancel orders directing the 21st Panzer division to conduct pursuit operations into Egypt. Westphal had the division recalled.

Westphal, and myself (von Mellenthin) as Ic, were left in complete control of Panzergruppe headquarters from 23-28 November. Westphal felt compelled to countermand one of Rommel's most important orders, and on his return the commander in chief showed his magnanimity by endorsing Westphal's action, although it was in direct contradiction to his earlier commands.<sup>84</sup>

This relationship was very critical to the successful execution of Auftragstaktik in battle where a strong understanding of one another was essential. It required seniors and subordinates to spend much time together in training for it to develop.<sup>85</sup> This relationship was also instrumental in the development of leaders. Commanders

developed the desired character and leadership attributes of how and not what to think. This required a close teacher-student and coaching relationship.<sup>86</sup>

The entire German education and training approach emphasized a common outlook on the nature of war, the character and leadership attributes, the importance of initiative, proper senior-subordinate relationships and how to issue orders. In training it allowed individuals to fail in order to learn from mistakes. When an individual failed his self-esteem was never damaged. The emphasis was placed on properly analyzing a situation and making a sound but quick decision based on the available information. The only wrong decision was to not act at all.<sup>87</sup>

The concepts of Auftragstaktik are much more complex than its English translation suggests. As a warfighting philosophy it should not be examined in isolated parts. The issue then is, can it be taken out of the historical and cultural context in which it was developed and serve as a model for the development of battle command for the Force XXI Army? Comparing Auftragstaktik with the issues and concepts of battle command will provide the answer.

### III. Similarities in Leadership Characteristics and Requirements

The United States Army, like any professional military organization is attempting to prepare for the future. The United States Army's views concerning its future requirements, in the early twenty-first century, are expressed in its Force XXI Army concepts. The primary forces of change influencing the Force XXI Army are a new strategic situation for the United States and the effect information technology will have on the conduct of war. One aspect of the Force XXI Army's attempt to deal with these forces of change is a new command concept called battle command.

An examination of battle command revealed several critical leadership characteristics and requirements for the men and women who will practice the art of battle command. The framework for examining the leadership characteristics and requirements included the role initiative plays in shaping leadership responsibilities, the importance of education and training programs in developing leaders, the nature of the senior-subordinate relationship, and the desired character and leader attributes of commanders and leaders.

This framework allowed an examination of the leadership characteristics and requirements of corporations considering



their challenges for the future and the leadership concepts found in the German warfighting philosophy called Auftragstaktik. Business views provided another organization considering the impact of advances in information technology and served as a comparison to views of battle command. Auftragstaktik served as a historical example of a philosophy that, for almost one hundred years, enabled the Prussian-German armies to adapt successfully at the tactical level to changes in the conduct of war. These examinations lead to two general conclusions. First, the battle command views concerning the impact of information technology were consistent with those of business. Second, the concepts of Auftragstaktik are relevant to the views of battle command at the tactical level, and may serve as a militarized version of business leadership techniques.

The central element to battle command, the future corporation and Auftragstaktik is the requirement to act quickly and effectively. Failing to maintain the initiative allowed an opponent to gain the initiative whether in battle or business. Additionally, the decision to act is made in a very complex and rapidly changing environment. Both battle command and the future corporation see the advances in information technologies as possessing the potential for providing domination over an opponent. Taking advantage of this potential would require changes in the organization's structure. More importantly the new technology would

increase the pace of operations. In battle command the tempo of operations increased because of the new technology. Decreasing production cycle times allows the corporation to maintain competitiveness in a demanding market environment. However, the elimination of uncertainty is not within the potential of information technologies. This is similar to Auftragstaktik that saw the integration of the telegraph, telephone, radio and mechanization to warfare. All increased the tempo of military operations but did not eliminate the uncertainty that decision makers had to operate under.

Battle command, the future corporation and Auftragstaktik also had similar views on the necessary leadership characteristics and requirements of its respective decision makers. All three have a requirement for decentralized decision making by competent leaders who display the potential and exercise the initiative. This initiative is conducted within the framework created by the superior's intent or vision. Both battle command and Auftragstaktik recognize the superior's responsibility to regulate the amount of freedom or initiative a subordinate can exercise, if the given situation does not allow it.

The decision makers in both battle command and Auftragstaktik require and intuitive sense of battle. Future corporations will require employees who are committed to the company. But commitment is also assumed to be

required in both battle command and Auftragstaktik. Only dedicated and committed professionals will undertake the study of the art of command necessary for battle command and inherit in Auftragstaktik. Intuitive business sense is also assumed to be inherit in the corporation's employees. Knowing what to do is critical if having the ability to act is going to lead to success. The emphasis on employee commitment to the company appears so strong in the future corporation discussion because it represents a radically new way for executives and managers to view their employees.

All three ideas also profess the need to develop their decision makers. Training and education programs are essential. Developing the initiative and situational analysis skills were essential to the training programs of all three ideas. Education programs were more diverse. Both battle command and Auftragstaktik emphasized the importance of a common understanding of doctrine through out the organization. battle command's education requirements included that its leaders have a greater appreciation for political, social and other cultural ideas of the United States and other countries and peoples.

Finally, all three ideas also recognized the importance of a mutual sense of trust, confidence and loyalty between seniors and subordinates. Only under these conditions would initiative and decentralized decision making occur. The senior is also required to fulfill the role of coach,

teacher and mentor. This is critical in the development of subordinates, especially in the development of the initiative and situation analysis skills.

These findings lead to the conclusion that the concepts of battle command are consistent with the requirements to act quickly and effectively in an uncertain and stressful environment. The findings also suggest that the leadership concepts of Auftragstaktik are relevant to the concepts of battle command. Auftragstaktik can serve as a model for the United States Army as it integrates the requirements of battle command into its organization.

#### IV. Conclusion

The findings established similar leadership characteristics and requirements between battle command and Auftragstaktik. The leadership concepts of Auftragstaktik are relevant to the leadership characteristics and requirements of battle command. Auftragstaktik can serve as a model for the integration of the battle command into the United States Army. However, these conclusions do not suggest the adoption of the Auftragstaktik concepts as practiced before 1945. The leadership concepts of Auftragstaktik must remain in their proper historical and cultural context when considered. The concepts of Auftragstaktik are similar to the leadership characteristics

and requirements of battle command, because of the similar nature of the battlefield challenges each is attempting to operate in. Auftragstaktik's usefulness to battle command and the Force XXI Army is its all-encompassing approach.

Carrying out the concepts of battle command will require the United States Army to consider the nature and the conduct of war, character and leadership attributes, senior-subordinate relationships, assignment and promotion policies, education and training programs. It must be holistically embraced by the army if practicing the art of battle command is to succeed.

#### Recommendations.

As discussed earlier, Battle Command requires commanders and leaders who have an exceptional knowledge of doctrine, a broad understanding of the nature of war, the art of command and a sharp awareness of how to employ their forces when operating in the very complex and diverse environments of the future battlefield. As Auftragstaktik showed, successful application of battle command will require the integration of its principles throughout the army's entire leader development system.

The integration of battle command and the preparation for the early twenty-first century must begin now. The army's senior commissioned and noncommissioned officers for

this period are currently serving as captains, majors, sergeants and staff sergeants. Other future commanders and leaders have either just begun or will soon begin their military careers. The education and training programs that will develop the future practitioners of battle command have to start today.

Developing the commanders and leaders who will practice battle command will require raising the standards in the army's professional education system. Meeting the challenges of this requirement will demand that the education programs receive the necessary guidance, direction, prestige and resources. It is foolish to expect the current system to produce a higher quality product without first providing it with the means to do so. But improvements in leader development will require more than just changes in education programs.

The amount of experience commanders and leaders receive practicing the art of battle command, at various grade levels and duty positions, must also increase. Mastering the complexities of the future battlefield will require practice. Without more experience to learn from mistakes, future commanders and leaders will not have the opportunity to perfect any knowledge gained in an improved education program. Decreasing the amount of time in troop assignments, at all grade levels, also hinders the ability of superiors to exercise any patience when attempting to

teach, mentor and coach future commanders and leaders in the art of battle command.

One way to increase the amount of "troop time," is to change the mandatory retirement policy from thirty-five years of service or age sixty-two, to simply a mandatory retirement at age sixty-two regardless of the number of years served on active duty. This change would provide five additional years to the base officer professional development model. The additional years would increase the amount of time available to learn and practice the art of battle command. Similar modifications are also necessary for the noncommissioned officer's professional development model. Similar changes will enhance their opportunities to develop the required battle command skills.

The nature of the training experience future commanders and leaders receive must also change. The training scenarios at the army's Combined Training Centers (CTCs) and the preparation training at the unit's home station, must more closely reflect the battlefield environments of the future. Some of the CTCs have already modified their training scenarios to expose units to this more complex and diverse battlefield. However, much more is still required. A greater integration of heavy, light, special operations forces and other members of the joint team would enhance the quality of the training experience. However, this effort to enhance the training experience must begin first with the

creation of the training literature units will use to train their soldiers to the required standards.

These four recommendations are only a few of the changes that the army may embrace as it prepares for the future. Many other changes in the leader development process may prove necessary. Preparation for the future may also require changes in doctrine, organizations, material and tactics. Whatever changes are necessary, they will only be possible by an army that is versatile, flexible and adaptable in its approach to the future.



## ENDNOTES

1. The challenges that military organizations face when attempting to prepare for the future is taken from several sources. Michael Howard, "Military Science in the Age of Peace," Chesney Memorial Gold Medal Lecture, 3 October 1973, School of Advanced Military Studies Reprint, United States Army Command and General Staff College, Fort Leavenworth, Kansas, pp. 53-63. Colonel Richard M. Swain, United States Army Retired, "Adapting to Change in Times of Peace," Military Review (July 1994): p. 52-56. J.F.C. Fuller, The Conduct of War, 1789-1961, (New York: Da Capo Press) 1992, pp. 11-14.
2. Howard, p. 59.
3. Ibid, p. 57.
4. Ibid, p. 63.
5. The United States' new strategic situation and the army's role and responsibility in this setting was taken from the United States Army's Training and Doctrine Command Pamphlet 525-5, Force XXI Operations: A Concept for the Evolution of Full-Dimensional Operations for the Strategic Army of the Early Twenty-First Century, (Fort Monroe, Virginia: United States Government Printing Office) 1 August 1994, pp. 1-1 to 1-2. A similar discussion of the army's role and responsibilities in this new strategic situation is found in General Gordon R. Sullivan, United States Army, and Colonel James M. Dubik, United States Army, "War in the Information Age," Military Review (April 1994), pp. 53-58.
6. The advantages offered by the potential of information technology is taken from TRADOC Pamphlet 525-5, pp.1-4 to 1-5. These same advantages are also discussed by General Gordon R. Sullivan, United States Army, "Moving into the 21st Century: America's Army and Modernization," Military Review (July 1993), p. 6.
7. Sullivan, pp. 7-8 and TRADOC Pamphlet 525-5, p. 3-19.
8. The potential of information technology to increase the tempo of future operations is found in TRADOC Pamphlet 525-5, p. 3-19 and Sullivan and Dubik, p. 61.
9. TRADOC Pamphlet 525-5, p. 1-1 to 1-6.
10. Ibid, p. 1-5.
11. Ibid, pp. 3-2 to 3-3.

12. Ibid, pp. 3-3 to 3-15.
13. Ibid, p. 3-3.
14. Ibid, pp. 3-3 to 3-15.
15. Ibid, p. 3-3.
16. Ibid, pp. 3-3 to 3-4.
17. The inability of future information technology to eliminate uncertainty on the battlefield is discussed in TRADOC Pamphlet 525-5, p. 3-4. The inability of technology to eliminate uncertainty is a similar theme in other studies on command and control. Martin van Creveld, Command in War, (Cambridge: Harvard University Press) 1985, p. 103, and in the condensed version of the Essex Corporation's, Fort Hood Leadership Study, Fort Leavenworth, Kansas: Center for Army Leadership, United States Army Command and General Staff College, 24 November 1986, p. 45.
18. This discussion of the nature of war was taken from several sources. Martin van Creveld, pp. 266 to 267. Sullivan and Dubik, p. 58. United States Army, Battle Command: Leadership and Decision Making for War and Operations Other Than War, Draft NO. 2.1, Battle Command Battle Lab, Fort Leavenworth, Kansas, 22 April 1994, p. 5.
19. The desire to maintain the initiative over an opponent is taken from several sources. Sullivan and Dubik, p. 47. van Creveld, pp. 261-275. It is also a central concept of "Maneuver Theory" found in Richard E. Simpkin, Race to the Swift, (London: Brassey's Defense Publishers) 1985, p. 22.
20. The description of intuition is found in both TRADOC Pamphlet 525-5, p. 3-4 and in the Battle Command Battle Lab's Handbook, pp. 9-10.
21. TRADOC Pamphlet 525-5, p. 4-4.
22. Ibid, pp. 4-4 to 4-5.
23. The purpose of initiative, in and Information Age Army, is taken from TRADOC Pamphlet 525-5, pp. 3-4, 3-23 and 4-4 to 4-5. Battle Command Battle Lab's Handbook, pp. 7, 15, 17-18 and 65.
24. Battle Command Battle Lab's Handbook, pp. 10-11 and 63. These themes of responsibility for decisions, loyalty and team work in an organization were also found essential in the Fort Hood Leadership Study, pp. 2, 9-10 and 15-16.

25. This training climate is described in the Battle Command Battle Lab's Handbook, pp. 47-49. A similar climate is considered essential for the existence of "Directive Control" which is critical for the successful execution of "Maneuver Theory", Simpkin, p. 239.
26. TRADOC Pamphlet 525-5, p. 4-4.
27. Ibid, p. 4-4
28. The degree of decentralization or centralization in the practice of Battle Command is found in the discussion of Battle Command flexibility, Battle Command Battle Lab's Handbook, p. 9. This concept is also discussed by Wolf-Dietrick Kutter, "United States Army Enters the 21st Century," Military Technology, (December 1992) p. 44. The complexity of initiative is discussed in Major K.S. Donohue's, United States Army, Developing Initiative in Junior Officers, Fort Leavenworth, Kansas: Master Thesis, United States Army Command and General Staff College, June 1993, p. 15 and 17.
29. Martin van Creveld, Fighting Power: German and U.S. Army Performance, 1939-1945, (Westport, Connecticut: Greenwood Press) 1982, p. 170.
30. Despite the increasing similarities in the bureaucratic structures of both business and the military, the qualities of "fighting power" will continue to distinguish the two types of organizations. van Creveld, Fighting Power: German and U.S. Army Performance, 1939-1945, pp. 169-170.
31. Don Tapscott and Art Caston, Paradigm Shift: The New Promise of Information Technology, (New York: McGraw-Hill, Inc.) 1993, p. 282.
32. van Creveld, Fighting Power: German and U.S. Army Performance, 1939-1945, p. 170.
33. The caution of applying developments in business directly to the military is found in two sources. van Creveld, Fighting Power: German and U.S. Army Performance, 1939-1945, p. 170 and in Sullivan and Dubik, pp. 55-56.
34. The similar forces of change influencing both the military and business are found in Lee Smith's, "New Ideas from the Army (Really)", Fortune (19 September 1994), p. 104 and in Tom Brown's interview with Margaret J. Wheatly, "The New Science of Leadership," Industry Week (18 January 1993), pp. 16-22.
35. This description of the American business market situation was taken from Alvin Toffler, The Adaptive Corporation (New York: McGraw-Hill Book Company), 1985, pp. 2-3.

36. The nature of the market environment is discussed in several sources. Tapscott and Caston, p. 7 and in William H. Davidow and Michael S. Malone, The Virtual Corporation: Structuring and Revitalizing the Corporation for the 21st Century (New York: Harper Business) 1993, pp. 50-72.
37. Davidow and Malone, p. 110.
38. The potential of information technology to enhance a company's performance in the face paced market environment was taken from Davidow and Malone, pp. 3-7.
39. Davidow and Malone, p. 15.
40. The concept of "power down" is discussed by Davidow and Malone, p. 60 and by Toffler, p. 5.
41. The limitations of information technology to allow for centralization of business decision making is found in Davidow and Malone, p. 166 and in Toffler, p. 122.
42. Tapscott and Caston, p. 283.
43. Toffler, p. 61.
44. Management responsibilities for developing initiative in their workers is described in Davidow and Malone, p. 167.
45. Davidow and Malone, p. 11.
46. The concept of establishing a vision for the company is taken from Davidow and Malone, pp. 180-181.
47. Toffler, p. 2.
48. Davidow and Malone, pp. 162-163.
49. The concepts of teamwork, trustworthiness, honesty and accepting responsibility are discussed in both Tapscott and Caston, p. 228 and in Davidow and Malone, p. 202.
50. Davidow and Malone, p. 162.
51. The importance of worker commitment to the company is found in Tapscott and Caston, pp. 198 and 283.
52. This example of developing trust between management and labor was taken from Tapscott and Caston, p. 192.
53. Davidow and Malone, p. 195.

54. The importance of employees with good study skills and willingness to become full time learners is found in Davidow and Malone, p. 195. It is also discussed in Alvin and Heidi Toffler's, War and Anti-War (Boston: Little, Brown and Company) 1993, p. 73.
55. Davidow and Malone, pp. 60-62, 68 and 188.
56. Ibid, p. 60.
57. Taken from Lee Smith's article on who is influencing General Gordon R. Sullivan, p. 108.
58. Howard, p. 59.
59. Captain Timothy F. Lupfer, United States Army, The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War, Fort Leavenworth, Kansas: Leavenworth Paper No. 4, Combat Studies Institute, United States Army Command and General Staff College, July 1981, pp. 55-58. Captain Jonathan M. House, United States Army, Toward Combined Arms Warfare: A Survey of 20th-Century Tactics, Doctrine and Organization, Fort Leavenworth, Kansas: Research Survey No. 2, Combat Studies Institute, United States Army Command and General Staff College, August 1984, pp. 19-37 and 52-58.
60. Howard, p. 59. Major John T. Nelson II, United States Army, Where to Go From Here? : Considerations for the Formal Adoption of Auftragstaktik by the U.S. Army, Fort Leavenworth, Kansas: School of Advanced Military Studies, United States Army Command and General Staff College, December 1986, p. 29.
61. Nelson, pp. 12-13 and Lupfer, pp. 28 and 46-49.
62. van Creveld, Fighting Power: German and U.S. Army Performances, 1939-1945, p. 161.
63. John L. Romjue, From Active Defense to AirLand Battle, Fort Monroe, Virginia: United States Army's Training and Doctrine Command Historical Office, June 1984, pp. 58-59.
64. Richard E. Cavazos, "The Moral Effect of Combat", Leadership on the Future Battlefield, James G. Hunt and John D. Blair editors, Texas Tech University (New York: Pergamon-Brassey's International Defense Publishers) 1985, pp. 20-21.
65. The mission-orders or mission tactics translation of Auftragstaktik was taken from, Nelson, p. 2. The mission-type tactics translation is from, von Lossow, p. 87. The literal translation of auftrag is taken from the Collins German-English and English-German Dictionary, 2d edition. Peter terrell, Veronika schorr, Wendy V.A. Morris and Roland Breitsprecher (New

York: Harper Collins Publishers) 1991.

66. Nelson, p. 2.

67. Ibid. p. 2.

68. Ibid. p. 3.

69. Lieutenant Colonel Walter von Lossow, Federal Republic of Germany Army, "Mission-Type Tactics versus Order-Type Tactics," Military Review (June 1977), p. 87.

70. Nelson, p. 4.

71. Nelson, p. 6. van Creveld, Command in War, pp. 169, 183 and 270.

72. Major Michael J. Harwood, United States Army, Auftragstaktik: We Can't Get There From Here, Fort Leavenworth, Kansas: School of Advanced Military Studies, United States Army Command and General Staff College, December 1990, p. 3. van Creveld, Fighting Power: German and U.S. Army Performance, 1939-1945, pp. 110-114, 117, 118 and 121-122.

73. Nelson, p. 4.

72. Nelson, pp. 6-7. van Creveld, Command in War, p. 144.

73. General William DePuy, United States Army Retired, Generals Balck and von Mellenthin on Tactics: Implications for NATO Military Doctrine, McLeans, Virginia: The BDM Corporation, 19 December 1980, p. 19.

74. Harwood, p. 7. Nelson, p. 7.

75. Field Marshall Erich von Manstein, Lost Victories, Translation by Anthony G. Powell (Novato, California: Presidio Press), 1958, p. 383. Herbert Rosinski, The German Army (New York: Fredrick A. Praeger Publishers), 1966, p. 122. Marine Corps Education Center Staff, "German Training and Tactics: An Interview with Colonel Pestke," Marine Corps Gazette (October 1983), p. 59.

76. Donohue, p. 13. Major M.A. Burton, United States Army, Command and Control: Is the U.S. Army's Current Problem With Decentralized Command and Control a Function of Doctrine or Training?, Fort Leavenworth, Kansas: School of Advanced Military Studies, United States Army Command and General Staff College, December 1986, pp. 28-29.

77. Lieutenant Colonel Richard F. Timmons, United States Army, "Lessons From the Past for NATO," Parameters (Autumn 1984), pp. 7-9.

78. Nelson, p. 12. Burton, p. 29.

79. Nelson, p. 7.

80. van Creveld, Fighting Power: German and U.S. Army Performance, 1939-1945, p. 165. Burton, p. 22. Major R.J. Walters, United States Army, Order Out of Chaos: A Case Study of the Application of Auftragstaktik by the 11th Panzer Division During the Chir River Battles, 7-19 December 1942, Monterey, California: Masters Theses, Naval Post Graduate School, March 1989, p.7.

81. Burton, p. 17.

82. Major General F.W. von Millenthin, Panzer Battles, Translator H. Betzler (London: Cassell), 1955, p. 46.

83. Burton, p. 27. Walters, p.12.

84. Walters, p. 11. DeBuy, Generals Balck and von Mellenthin on Tactics: Implications for NATO, p. 17.

## BIBLIOGRAPHY

### BOOKS

Bellamy, Christopher. The Evolution of Modern Warfare. London: Routledge, 1990.

\_\_\_\_\_. The Future of Land Warfare. New York: St. Martin's Press, 1987.

Bernhardi, Fredrich von. How Germany Makes War. New York: George H. Doran Company, 1914.

Brown, Fredric J. Lieutenant General USA Ret. The U.S. Army in Transition II. New York: Brassey's Inc., 1993.

Cito, Robert M. The Evolution of Blitzkrieg Tactics: Germany Defends Itself Against Poland, 1918-1933. New York: Greenwood Press, 1987.

Crevelld, van Martin. Command in War. Cambridge: Harvard University Press, 1985.

\_\_\_\_\_. Fighting Power: German Military Performance, 1914-45. Potomac, Maryland: C&L Associates, Defense Contractors, 1980.

\_\_\_\_\_. Fighting Power: German and U.S. Army Performances, 1939-1945. Westport, Connecticut: Greenwood Press, 1982.

\_\_\_\_\_. The Transformation of War. New York: The Free Press, 1991.

Davidow, William H, and Michael S. Malone. The Virtual Corporation: Structuring and Revitalizing the Corporation for the 21st Century. New York: Harper Collins Publishers, Inc., 1992.

English, John A. On Infantry. New York: Praeger Publishers, 1981.

Fuller, J.F.C. The Conduct of War: 1789-1961. New York: Da Capo Press, 1992.

Guderian, Heinz, Generaloberest. Panzer Leader. Trans. Constantine Fitzgibbon. London: Michael Joseph, 1952. Reprinted ed. New York: Ballantine Books, 1972.



Hart, Liddell B.H. The German Generals Talk. New York: Morrow Quill, 1979.

Hunt, James G. and John D. Blair ed. Leadership on the Future Battlefield. Washington, D.C. and London: Pergamon-Brassey's International Defense Publishers, 1985.

Manstein, Erich von Field Marshall. Lost Victories. Trans. Anthony G. Powell. Novato, California: Presidio Press, 1958.

Matthews, Lloyed J. and Dale E. Brown, eds. The Challenge of Military Leadership. Washington, D.C. and London: Pergamon-Brassey's International Defense Publishers, Inc., 1989.

Millenthin, F.W. von, Major General. Panzer Battles 1939-45. Trans. H. Betzler. London: Cassell, 1955.

Rosinski, Herbert. The German Army. New York: Frederick A. Praeger Publishers, 1966.

Rost, Joseph C. Leadership: For the Twenty-First Century. New York: Praeger, 1991.

Simpkin, Richard E. Race to the Swift. London: Brassey's Defence Publishers, 1985.

Spires, David N. Image and reality: The Making of the German Officer, 1921-1933. Westport, Connecticut: Greenwood Press, 1984.

Tapscott, Don and Art Caston. Paradigm Shift: The New Promise of Information Technology. New York: McGraw-Hill, Inc. 1993.

Toffler, Alvin and Heidi. War and Anit-War. Boston: Little, Brown and Company, 1993.

Toffler, Alvin. The Adaptive Corporation. New York: McGraw-Hill Book Company, 1985.

#### MONOGRAPHS, STUDENT ESSAYS, STUDY PROJECTS AND THESES

Burton, M.A. Command and Control: Is the U.S. Army's Current Problem With Decentralized Command and Control a Function of Doctrine or Training? Fort Leavenworth, Kansas: School of Advanced Military Studies, United States Army Command and General Staff College, December 1986.

Cowan, D.M. Auftragstaktik: How Low Can You Go? Fort Leavenworth, Kansas: School of Advanced Military Studies, United States Army Command and General Staff College, December 1986.

Donohue, K.S. Developing Initiative in Junior Officers. Fort Leavenworth, Kansas: Masters Theses, United States Army Command and General Staff College, June 1993.

Harwood, Michael J. Auftragstaktik: We Can't Get There From Here. Fort Leavenworth, Kansas: School of Advanced Military Studies, United States Army Command and General Staff College, December 1990.

Lupher, Timothy T. The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War. Leavenworth Papers No. 4. Fort Leavenworth, Kansas: Combat Studies Institute, United States Army Command and General Staff College, July 1994.

Nelson, J.T. Where to Go from Here: Considerations for the Formal Adoption of Auftragstaktik by the U.S. Army. Fort Leavenworth, Kansas: School of Advanced Military Studies, United States Army Command and General Staff College, December 1986.

Runals, Stephen E. Command and Control: Does Current US Tactical Command and Control Doctrine Meet the Requirement for Today's High Intensity Battlefield? Fort Leavenworth, Kansas: School of Advanced Military Studies, United States Army Command and General Staff College, 1985.

Vermillion, John Tactical Implications of the Adoption of Auftragstaktik for Command and Control on the AirLand Battlefield. Fort Leavenworth, Kansas: School of Advanced Military Studies, United States Army Command and General Staff College, December 1985.

Walters, R.J. Order Out of Chaos: A Case Study of the Application of Auftragstaktik by the 11th Panzer Division During the Chir River Battles, 7-19 December 1942. Monterey, California: Masters Theses, Naval Postgraduate School, March 1989.

Willbanks, James H. AirLand Tactical Command and Control: Reducing the Need to Communicate Electronically in the Command and Control of Combat Operations at the Tactical Level. Fort Leavenworth Kansas: Masters Theses, United States Army Command and General Staff College, 1984.

### MAGAZINES, ARTICLES AND PERIODICALS

- Brown, Tom. "The New Science of Leadership". Industry Week (18 January 1993) 14-22.
- Depuy, William E. "Concepts of Operation: Heart of Command, Tool of Doctrine". Army. Vol. 38 No. 8 (August 1988) 26-40.
- Foss, John W. "AirLand Battle - Future". Army. Vol. 41 No. 2 (February 1991) 20-37.
- Krause, Michael D. "Moltke and the Origins of Operational Art". Military Review Vol. 70 No. 9 (September 1990) 28-44.
- Kutter, Wolf-Dietrich. "US Army Enters the 21st Century". Military Technology Vol. 16 No. 12 (December 1992) 36-41.
- Lossow, Walter von. "Mission-Type Tactics versus Order-Type Tactics". Military Review Vol. 57 No. 6 (June 1977) 87-91.
- Marine Corps Education Center Staff. "German Training and Tactics: An Interview with Colonel Pestke". Marine Corps Gazette Vol. 67 No. 10 (October 1983) 58-65.
- Matthews, L.J. "Auftragstaktik: A Case for Decentralized Battle". Parameters Vol. 17 No. 3 (1987).
- Smith, Lee. "New Ideas From the Army (Really)". Fortune (19 September 1994) 203-208.
- Sullivan, Gordon R. "Moving Into the 21st Century: America's Army and Modernization". Military Review. July 1993
- \_\_\_\_\_ and James M. Dubik. "War in the Information Age". Military Review. April 1994.
- Timmons, Richard F. "Lessons From the Past for NATO". Parameters Vol. 14 No. 3 (1984) 3-11.

### MILITARY MANUALS, PUBLICATIONS AND GOVERNMENT DOCUMENTS

- Battelle Columbus Laboratories. Translation of Taped Conversation with General Herman Balck. Columbus: Tactical Technology Center, 1979.

- Howard, Michael. "Military Science in the Age of Peace".  
Chesney Memorial Gold Medal Lecture, 3 October 1973.  
School of Advanced Military Studies Reproduction, Fort  
Leavenworth, Kansas: United States Army Command and  
General Staff College, 1994.
- DePuy, William. Generals Balck and von Mellenthin on Tactics  
Implications for NATO Military Doctrine. The EDM  
Corporation: McLean, Virginia, 19 December 1980.
- US Army. AirLand Battle - Future Umbrella Concept (Final  
Coordinating Draft). Fort Leavenworth, Kansas: Combined  
Arms Center, October 1990.
- US Army. Condensed version of the Fort Hood Leadership Study.  
Fort Leavenworth, Kansas: Center for Army Leadership,  
United States Army Command and General Staff College, 24  
November 1986.
- US Army. United States Army Training and Doctrine Command  
Pamphlet 525-5. Force XXI Operations: A Concept for the  
Evolution of Full-Dimensional Operations for the Strategic  
Army of the Early Twenty-First Century. Fort Monroe,  
Virginia: U.S. Government Printing Office, 1 August 1994.
- US Army. United States Army Battle Command Battle Laboratory.  
Battle Command: Leadership and Decision Making for War  
and Operations Other Than War (Draft 2.1). Fort  
Leavenworth, Kansas, 22 April 1994.

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